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# Information Literacy Programming, Students Skills and Utilization of E-Resources at Maseno University, Kenya

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**Abstract:-**The study was conducted in Maseno University Kenya. The study objectives were to examine the existing infrastructure that supports the delivery of IL program at Maseno University; to determine the extent of use and the relevance of e-resources to students need at Maseno University and to identify ways of improving utilization of e-resources in Maseno University. Descriptive research design was used in this study and the target population was 100 respondents. Research instruments included questionnaires and an interview schedule. Data analysis was done using descriptive statistics for analysis purpose. Quantitative data was presented in form of frequency distribution tables, pie charts, percentages, and graphs. The Findings indicated that the program was not effective due to the reason that the program covered only orientation and was very short, the number of students was too big for induction during orientation, the orientation schedule is too overloaded to allow time for IL Program, time allocated for e-resource training is not enough and time allocated for IL Program training is not adequate. The findings also revealed that there was underutilization of electronic information resources in Maseno university library as students lacked information literacy skills required despite going through the IL training program offered to them by librarians. The study recommended that IL program should emphasize more training on user instructions, computer information literacy, online databases and information searching and that the program be offered to students after registration not during registration. Also an effective information literacy program be integrated into education curriculum to enable students acquire information literacy skills that will enhance their utilization of electronic information resources.

## I. INTRODUCTION

This Chapter presents the background to the study, Problem statement, Purpose of the study, Objectives of the study, Research questions, Significance of the study, Scope of the study, and conceptual framework.

### *Background of the Study*

In this age of information society, students were expected to know how to use the library and the available information retrieval tools with minimal assistance. Sadly, though, this has not been the case as many students lack the requisite skills and knowledge, to use the information them in carrying out their research work. (Hall, 2010) describes information literacy as the people's ability to know when there is need for information so as to be able to identify, locate, retrieve,

evaluate and effectively use information to solve the problem or carry out their research. Information literacy entails knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner (CILIP, 2012). Information literate people are those who have learned how to learn. They know how to learn because they know how information is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning because they always find the information needed for any task or decision at hand (Eisenberg, 2004)

Information literacy formed the basis for lifelong learning which was common to all disciplines, to all learning environments, and to all levels of education. Information literacy presupposed that an individual recognizes the need for information, and knows how to find, evaluate and subsequently communicate information effectively to solve particular problems or to make decisions. More importantly, whether information comes from the internet, online databases, books or document, and other possible sources, inherent in the concept of information literacy is the ability to understand and critically evaluate and make use of information to solve specific problems or tasks at hand.

An information literate person should possess specific online searching skills for example, the ability to select appropriate search terminology, logical search strategy and appropriate information evaluation. However, one barrier to the efficient utilization of information (especially digital resources in developing countries is the relatively low level of information literacy skill. Without the ability to manipulate and use information effectively, investments in both print and electronic based resources may be a waste.

In this regard, some scholars have suggested that the digital divide between the developed and developing world has widened due to lack of information literacy skills in developing countries. People should be sensitized to use computers, Computer networks, and primarily, the internet and possibly more advanced ones such as presentations, production of web pages, construction of websites, use of digital multimedia equipment and programs. He also emphasizes a retooling of information professionals and submits that the potentials of the information age cannot be

realized without expanding the scope of information and computer literacy.

#### *Conceptual Background*

The concept Information is computer fundamentals refers to the collection of recorded facts, data or knowledge, and electronic data.

(Hall, 2010) defines Information Literacy as the people's ability to know when there is need for information so as to be able to identify, locate, retrieve, evaluate and effectively use information to solve the problem or carry out their research. According to (ACRL, 2000) Information Literacy is set of abilities requiring individuals to recognize when information is needed and have ability to locate, evaluate and use information effectively for the required academic or research work at hand. On the other hand, Information Literacy Program is the training program undertaken by librarians to their users to enhance them acquire information literacy.

#### *Conceptual framework*

Electronic Information Resource is defined as any information source that the library provides access to in electronic format. For example, the library use-orientation, workshops, and Information Literacy integrated courses.

Literacy: is the ability to Read and Write Locate, Access and Utilize Electronic Information Resources.

Information Literacy Programs: Basically, information literacy programs are action oriented, while helping to solve the real-life problems and making the correct decisions.

Information Literacy Infrastructure: Information infrastructure is the basic systems and services that are necessary for an informational organization to run smoothly. This includes IL policies, information resources (print and electronic) available, human resources skills and knowledge, facilities and physical equipment.

#### **Independent variables**

#### **Dependent variables**

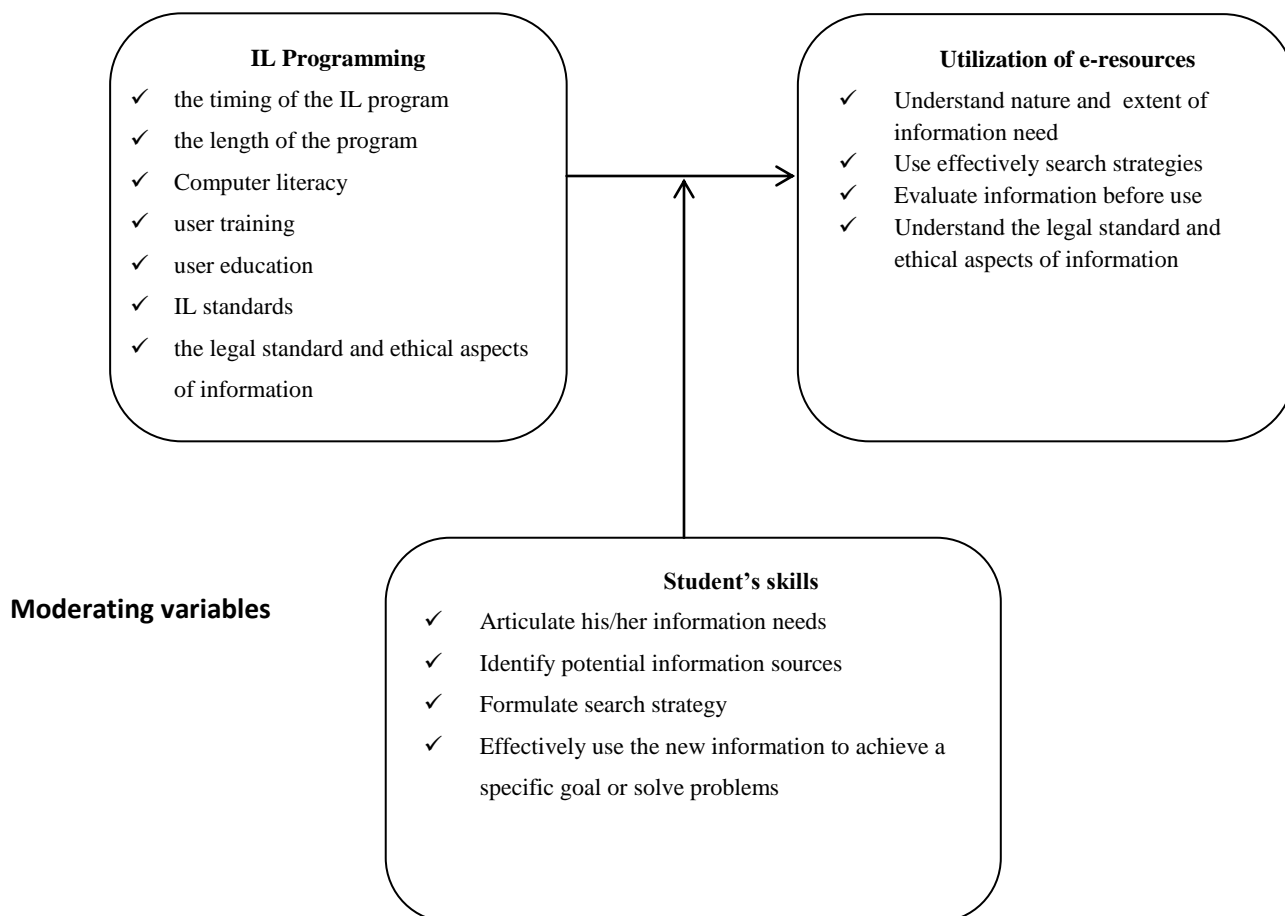


Fig 1: Conceptual Framework

Conceptual framework shows how the variables under the study intervene and relates. The dependent variable (Utilization of e-resources) would be guided by the independent variable i.e. (IL programming) the timing of the IL program, the length of the program, user training, user education, and well-organized IL instruction classes and the moderating variables (student skills) would determine the acquisition of information literacy skills that would enhance utilization of electronic information resources.

### *Theoretical Background*

This study examines use of electronic resources among researchers by examining the recent literature, the ability of researchers to use electronic resources, sources being used among researchers, purpose for using electronic resources. This work is based on theories that would emphasize use of electronic resources. Theories that are relevant to this study include: Technology Acceptance Model by (Davis, 1989), Roger's Diffusion of innovations (1995), Productivity Theory, Input output model and system model.

Diffusion of Innovation Theory Diffusion of Innovation Theory: (Rogers, 1983, 1995) postulates Diffusion of Innovation theory, which describes the patterns of adoption, explains the mechanism, and helps predict whether a new invention will be successful. The theory has been used as the theoretical basis for a number of information system research projects. This theory will help the management of any organization to know which the best method of introducing a new idea in service delivery. The diffusion theory was so helpful in this research for it informed on how to undertake the new invention and will guide on how to make the E-resources appearing to the user community

### *Contextual Background*

Maseno University was founded in 1991, is the only university on the globe that lies along the Equator (00). It is one of the seven public universities in Kenya. The University is located in Maseno Township along Kisumu-Busia road, 25 km from Kisumu City and approximately 400 km west of Nairobi the capital city of Kenya. It also shares its boundaries with Vihiga and Kisumu County. Maseno University currently has four Campuses, a College and a Constituent College. Maseno Main Campus is in Maseno Township 25km from Kisumu on the Busia road.

The core activities and central administration of the University takes place on this Campus. Through this Campus, the University caters for the ever-expanding demand for University education in the region. The e-Campus is one of the latest innovations by Maseno University to facilitate online delivery of high quality certificate, diploma and degree programs to learners in various parts of the country, the East African region and beyond. All programs offered at the e-Campus are primarily delivered through the internet, with students taking sit-in on-campus examinations at the end of each Semester.

The name "Maseno" was coined by Rev. J.J. Willis out of the name of a tree known in local dialects as "Oseno" or "Oluseno" that stood next to the spot where the first missionaries in the region erected their base. Maseno University's history begun with the merging of Maseno Government Training Institute (GTI) with Siriba Teacher's Training College to form Maseno University College as a Constituent College of Moi University. This led to its subsequent gazetting in October 1990 crowning the two institutions' several decades of meritorious existence. It became a full-fledged University 11 years later, in 2001.

The Maseno university library began in 2001 same time as the University becoming full-fledged. It has however grown progressively over the years in size, services and range of information sources. To date, The Maseno university library provides a variety of scientific information both in print and electronic. It has a collection of 200,000 books, subscribes to 50 titles of printed journals and 39,000 e-journals and databases that can be accessed not only from Local Area Network (LAN) of workstations across the campus but also from internet connection via Lightweight Directory Access Protocol (LDAP) users' account. The total number of Maseno university library users is estimated to be 10,000 individuals of whom 8000 are undergraduate students. The total number of Maseno university library staff is 60. The Maseno university library has the following sections: Acquisition, Cataloging and Classification (Technical), Periodical, References, African and Circulation.

The vision of Maseno university library was to satisfy its users and provide the up-to-date, relevant and reliable documents to all Maseno university community such as academic staff, researchers, administrative and technical staff and students both postgraduate and undergraduate. Its mission is to support the teaching, learning, research and the community services. The Maseno university library has computers set aside for accessing online databases and the OPAC. In addition, it has computer labs used for accessing and using of e-journals, e-resources and e- books. For the improvement on the efficiency of service delivery, the Library in 2005 automated its services. The Library software (liberty 3) has been in use since 2005 and is particular used by users in accessing the OPAC.

The university started carrying out Technical Services such as acquisition/processing section which was responsible for the selection and purchase of materials or resources. The department receives requests from different faculties and processes orders for purchases. The head of Acquisition gathers orders for the proposed documents and compiles the final list that is sent to the procurement for purchasing after the approval of the University Librarian. The processing of books and other information materials is done at this section. Circulation Desk, Periodicals Section were also added to enable the current and retrospective periodicals such as magazines, journals, newspapers; bought or donated to the library. The loaning of materials in this section is not allowed.

Users borrow for using within the periodical section and reading room. Library users use this section for research purposes and also for current awareness purposes. The Maseno University was chosen as the case study which will help give a general picture of what is happening in most public university libraries across the continent and Kenya in particular.

Many Kenyan students do not have the information literacy skills needed to perform this exercise. The general objective of this study is to examine the influence of Information Literacy programs on utilization of e-resource at Maseno University.

#### *Statement of the Problem*

The 21<sup>st</sup> Century Education system is on driven with increase in use of digital resources such as electronic academic libraries where books are in electronic forms, research databases, as well as electronic journals, and made them accessible via their library web portals in order to provide users with better and easier access to their electronic collections and services. The digital resource creates information literacy skills to the users so that they can easily locate, retrieve and utilize electronic information resources and sources in the library.

Maseno University library has put in place Information Literacy programs. These programs are meant to provide students with the required IL skills to enable them access and use effectively the e-resources and other information materials at their disposal. The university subscribed to over 39000 e-journals. The IL programs conducted by the University are meant to equip learners with required Knowledge on how to access and use the e-resources and other information resources for the benefit of their academic and research works at the University. The e-resources subscribed to covers all the academic fields undertaken at Maseno University. IL programming is the one critical aspect of learning that help in equipping the students with information needed, understand how that information is organized, identify the best sources, locate and evaluate them critically and have the ability to use effectively the information retrieved.

However, students are not effectively using electronic information resources. Some of the available electronic information resources have not been utilized at all. This was discovered after a careful study of the statistics and request forms submitted in the year 2017. Out of the over 39000 e-journals subscribed to it was discovered that only 10000 request forms were submitted, meaning almost 29000 journals are not used at all. Some dons have complained that most of the research works submitted show no research was done or poor intellectual output. The University is spending a lot of money every year for these journals. The underutilization of this journal is what is causing a lot of challenge to the Library management. Hence the needs to examine the effectiveness of the IL program to bridge the existing study gap at Maseno University.

#### *General Objective*

The general objective of this study is to examine the influence of Information Learning programming on utilization of e-resource at Maseno University.

#### *Specific Objectives*

- (i) To examine the existing infrastructure that supports the delivery of IL program at Maseno University.
- (ii) To determine the extent of use and the relevance of e-resources to students need at Maseno University.
- (iii) To identify ways of improving utilization of e-resources at Maseno University.

#### *Research Questions*

- (i) What policies and ICT facilities are used in the delivery of IL programs at Maseno University?
- (ii) What is the extent to which the undergraduate students make use of electronic sources of information in Maseno University?
- (iii) Which strategies could be adopted for effective delivery of IL activities at Maseno University library?

#### *Scope of the Study*

The study assessed the Information Literacy programming, student skills and utilization of e-resources at Maseno university students; the sample was drawn from students, and library staff of the Maseno University. The study focused on students IL skills and the programming done to achieve this students' IL competency. The Library staff, being involved in IL programming formed a major factor in this research. The researcher endeavors to know how prepared are the staff to impart these IL skills to students. The infrastructures put in place formed part of the research study. While the Maseno University library is mandated with the responsibility of conducting the IL program, the schools are also expected to inculcate IL competencies in their students.

#### *Significance of the Study*

The finding of this study on information literacy programming, student skills and utilization of e-resources at Maseno University library, can be used:

- I. To inform and expand knowledge-base associated with different aspects Information Literacy.
- II. By the library staff in collaboration with the faculty to justify the need for developing an information literacy policy for students and other library users. The developed IL policy can in turn be used to assess the existing IL programs and subsequent IL activities in meeting the set of objectives.
- III. By the library to identify and develop information literacy programs appropriate for the users.
- IV. To add information to the body of knowledge on information literacy and open new research relating



to library and information searching and retrieving, effectively and efficiently using and communicating the information, not only in Maseno University but also in other institutions in Kenya and Africa in general.

#### *Assumption of the Study*

1. Information literacy skills of students of Maseno University are not well developed due to unstructured IL program.
2. The existing infrastructure for IL at Maseno University is inadequate and this has derailed students IL skills development.
3. IL skills among students can be improved significantly if IL programming is done differently and efficiently.

## II. LITERATURE REVIEW

The Literature review was presented basing on the research objectives which constitute: information literacy programming, Use of Electronic Information Resources by university students and attitudes towards e-resources usage.

### *2.1 Theoretical Framework*

According to (Crowson, 2017) there are a good number of theories and models employed in studying individuals' ICT adoption and post-adoption behaviors. Social psychology and its applied theories and models have been mainly used in this strand of research. These theories and models focus on people's intention to engage in a certain behavior (that is to say, adopt and use ICT) as a major theoretical foundation.

#### *Meta Theory Model*

(Ruchala, 1999) argue that; previous applications of information technology in educations systems were mainly processes of offline digital resource. Meta theory is the integration and the synthesis of technical orientations, cognitive as well as the overarching model into the research on AIS. The meta theory has helped in addressing the IT limitations that are imminent and addressed in previous researches such as the failure to recognize the task to which IT is being applied, the failure to recognize the adaptive nature of the artificial phenomena, the failure to account for the design science in the actual field research and the failure to direct the act of making or choosing the necessary decisions and treating all the transactions in an equal manner (Gorry & Scott Morton, 1971). (Grabski, 1987) assert that; information systems in accounting are used by accountants and other key decision makers that employ the accounting information or make use of the accounting data.

The Meta theory model is built on past frameworks on the management information systems. Technology is very pervasive and an essential component in accounting tasks and changes work processes very efficiently. This is well recognized in the accounting theory. There are many research

methods that are being employed to look into the problems inherent in Accounting information systems and accounting problems. This is evident in managerial accounting where field work, experimental work and analytical works address the relationships that exist between management information systems and accounting. The Meta-theory model starts with a task focus and also suggests a process that matches between task and the alternatives for system design and various levels of analysis. It also suggests contingency factors, organizational factors and technological factors have an influence on the aspect of task performance.

#### *Kuhlthau's theory of Information Search Process (ISP)*

The theory of Information Search Process by Kuhlthau was developed in a series of studies of the experience and behavior of library users involved in extensive research projects, and more recently, people in the work place using information for complex work-related tasks. It suggests six search stages: initiation, selection, exploration, formulation, collection and presentation.

This theory is relevant to this study in two ways:

- i. Information selection, searching and exploration are facilitated by information literacy skills acquired.
- ii. The search process theory will apply to this study in initiation, selection, exploration, formulation, collection and presentation of information. It is applicable in enhancing acquisition of information literacy skills to the students through information literacy training programs.

To identify, select, explore, formulate, collect and present information one must have acquired the required information literacy skills earned during IL training program that facilitate access, retrieval and utilization of the e-resources. Therefore, Kuhlthau's theory supports this study, for in information search process application of IL skills must be applied.

#### *Contingency Theory*

There are various alternative theories that have been put forward for the purposes of accounting on information systems. According to (Seaman, n.d.), there is a new IT theory that embraces the concept of macro organizations, technology and the human information processing systems. Earlier on, the contingency theory and possible relationship of the context control of the organization and structures of accounting. (Widener, 2004) looked into the various forms of contingency. Traditionally, accounting has served as the major supplier of information for decision making. (Widener, 2004) in his study of centralization versus decentralization discussed the need for an accounting system to consider the decision-making process. (Caplan & Caplan, 1999) and several other authors have discussed the need to consider the relationship between the decision-making process and accountings system. The contingency theory has been used for identification, analysis and the evaluation of the

factors that affect the design of accounting information systems and financial information systems. The broadness of the information requirement is required and is based on proposals and plans and usage to reflect the absorption of the required information. In this realm, usage becomes a subset of the requirements. The requirement and the usage of information have a gap that signifies the difference between the requirements that are stipulated and the actual information that has been received.

## 2.2 Information Literacy programming

The policy guidelines help in students' information gathering technology use and critical Thinking approaches. It can ensure that IL is amalgamated into university wide academic mandates in the form of mission statements, strategic plans, syllabus templates and academic assessment. IFLA's guidelines on information (2006), advocates for the specific inclusion of IL policy statement in the overall library goal and vision statement. Observations made from different University library websites shows that libraries have customized IFLA's suggestions variable in their mission statements. While others offer specific standalone IL policies, others have integrated it into the wider library policy as part of their objectives.

Students today need the skills that will enable them to access and navigate the growing universe of information, to select appropriately the credible and reliable information they need, to read critically and think independently as they produce their own ideas, and then to use that refined information for their academic careers. Actually, information is produced, maintained, archived and retrieved with new technologies. According to (Ferguson, 2003) ICT literacy as component of information literacy is that ability to use technologies such as internet, e-mail programs, word processors, presentation software, databases, digital videos, wireless communication extra, to access and use effectively and efficiently information required for personal, educational, professional and public life success.

According to (IFAP) Report (2004/2005), the ability to find and apply the right information can help tackle some of the world's most critical issues such as poverty, health, quality education, disaster prevention, governance and environmental care. From prehistoric times, when the people then led a life of a hunter and gatherer of wild foodstuff, relied on information concerning the natural environment. The information used concerned the behavior and seasonal migration of their prey. The people could tell the weather and seasons by observation. As a result of interacting with the natural environment, and gaining experience, these people accumulated a body of knowledge from which they could observe and explain their observations. They could eat, detect, live and harmonize their lives with their environment. Lack of information literacy skills will be a barrier to information access, retrieval and utilization. There is need for information literacy program and also need to seek the

usefulness of the program which this study seeks to establish for no research has been done.

According to (IFAP) Report (2004/2005), with the coming of the printing machines in the 15th century, the audio-visual cameras and recorders, and today's modern information and communication technological developments, people became aware that information was a crucial resource in the economic, political, social life of nations. Today, prosperity and economic growth have become increasingly dependent on the society's capacity to produce and communicate information and create a knowledge base among its people. That is why, the Western world such as USA, Europe, Eastern Asia and South Africa, are ahead of the rest of the world due to their production and dependence on information and embracing information literacy programs. IL programs in our Universities the orientation or user education is practiced and no research has been done on establishing the usefulness of the program, which the study seek to find out.

The question that arises is, how much information do we produce and use in Kenya. Do we have adequate information literacy skills to help us access, retrieve and utilize electronic information resources. This therefore creates a gap that needs to be established by this study.

## *Information Literacy Programs at the Kenyan Universities*

(Virkus, 2003) noted that information literacy programs in universities and other educational institutions form the background of information literacy among University students. Where there is an effective information literacy program, integrated in the curriculum and involving the collaboration of librarians and faculty, the University students are more likely to be information literate. He felt that information literacy programs in the universities need to be supported by a well-developed information infrastructure in the university library, and communications network. Its enforcement is also enhanced by an assessment policy or information literacy enforcement body in the university, or library and information professionals' body in the country.

According to (Kavulya, 2003) user education and information literacy are different forms of information literacy programs practiced in Kenyan universities. These include library orientation, library instruction courses, individual instruction or reference service, and use of library manuals and guides. In his research he noted that universities examined library orientation as mandatory and takes place in the first and second weeks when new students report to the university. Library orientation is aimed at making students aware of the available library facilities, information resources and services. It includes activities such as the distribution of informational material that describe the library system and the resources and services, introductory lectures, staff contacted tours and demonstrations on how to find and retrieve information using different tools such as catalogue, and journal indexes. There are four primary research themes that pervade the literature and research in the field of information literacy (Eisenberg,

2004). They described the nature and scope of IL, value of IL, effective methods of IL skills instruction and the impact of IL skills instruction. They noted that research on the nature and scope of IL examines the information problem-solving process, the research process, and the specific skills within these processes.

Research on the effect of information skills on performance in both academic and professional situations demonstrates the value of IL skills instruction. Finally, they added that impact of information literacy skills instruction focuses on the value of an integrated approach, with these in mind the researcher agrees with the two and sought to find out the major areas the IL training program concentrates on to establish why the e-resources are underutilized despite students going through IL training program.

The study concurs with the study by (Muhinja, 2013) that training user on ICT skills is essential and therefore inevitably necessary for effective use of e-books, certainly end users of electronic resources often need assistance in database content, search protocols and use of computers. There is therefore a necessity for a good training program to enhance students develop information literacy skills. Muhinja's research established that users were inadequately skilled for efficient utilization of e-resources and there was dire need for information literacy training program to facilitate utilization of e-resources by academic staff and students in universities in Kenya.

### *2.3 Information Literacy and Infrastructure*

According to (Virkus, 2003) infrastructure the availability of information resources in all media, print and electronic, with information and communication technology networks which enhance information literacy. (Shanhong, 2004) feels that developments in the information infrastructure increases the use of information, hence the rise in information literacy of citizens.

(David, 2009) noted that the success of the information literacy programs at university and workplaces is backed by the strength of the information infrastructure. The existence of the information infrastructure also depends on the effectiveness of the information literacy programs in both universities and at workplaces. Information infrastructure also influences the information literacy competence of University students and librarians in university libraries, these studies acknowledge the IL program in facilitating IL skills but differ in this study for the fact that this study wish to explore on effectiveness of the IL program offered to the students in the Universities.

According to (Virkus, 2003) study the success of the information literacy program at university and other levels of education is also backed up by the strength of the information infrastructure. The use of the information infrastructure also depends on the effectiveness of the information literacy

programs in both universities and at workplaces which the study seeks to establish.

### *2.4 IL skills among university students*

Individuals are faced with diverse, abundant information choices in their studies, in the workplace, and in their lives as noted by (Dadzie, 2005). Sheer abundance of information and technology will not in itself create more informed citizens without a complimentary understanding of and capacity to use information effectively. As (Mbeki, 1996) pointed out, the ability to use information effectively is now the single most important factor in deciding the competitiveness of countries. The fourth information literacy standard of Council of Australian University Librarians considers, among the aspects of effective use of information, extracting information appropriately, giving bibliographic citations, and understanding fair use of information. There is therefore need to establish the extent to which the universities in Kenya have moved towards achieving these goals and more so to establish the usefulness of the IL program offered.

As (David, 2009) noted information and literacy are terms that make up the concept of information Literacy from both the general and work place context in order to establish the position taken by the study. Various claims about the historical development of information literacy are given, dating it from the (Zurkowski, 1974), other from exponential growth of information and others from the development of computer and another ICT. It is also pointed out that although information literacy emanated from the library profession, it has been embraced by other professions throughout the world. Therefore, much need to be done in identifying the methods that can be applied so that people can acquire information literacy skills through IL training programs and an evaluation of the program. They believe that all students should have the opportunity to master the skill needed to access information in print, non-print and electronic sources. This study concurs with them and therefore the researcher sought to explore the influence of IL programming on utilization of e-resources in Maseno university library.

According to (Kavulya, 2003) the challenges facing information literacy efforts in Kenya is associated with scattered efforts; as a result, majority of students pass through the system without ever mastering the art of retrieval and use. Communication skills (a communication unit) is taught by non-library staff to undergraduate students and only once in their university life. This course is also characterized by large groups hence the use of the lecturer method due lack of personnel. Therefore, the study findings place information literacy efforts by Kenyan university libraries far from achieving what is called for in the literature, therefore there exists gaps that need to be bridged which this study seeks to establish.



### 2.5 Use of Electronic Information Resources by university students

Electronic resources are meant to help students to compliment the textbooks and other physical resources, that the Libraries stock. Hence the Universities have gone an extra mile to make the e-resources available through consortia and individual subscriptions.

According to (Shuling, 2007), electronic information has gradually become a major resource in every university library in recent years. The growth and diversity of e-resources, especially e-journals, has led many to predict the extinction of the printed journal. It has been suggested that a new paradigm is weeping scholarship.

In the global information communications technology (ICT)-dominated world, "place" is less

Important. The impact of moving from text-based to resource-based learning has involved heavier use of library materials and a demand for more and varied media sources (Kinengyere, 2007).

This makes the provision and use of electronic information systems in academic libraries a critical issue for those working in information and library services. The pace at which information resources are being produced and Converted into electronic formats is greater today than in previous years (Armstrong, 2001).

In today's information age it would seem that library users would not only be eager to take advantage of the convenience e-resources have to offer, but would be fully immersed in the new technologies.

Electronic information resources offer today's students new opportunities not available to previous generations. (Feng & Liew, 2000) argue that while reading an e-journal is not the same as reading a printed issue, many people now acknowledge that electronic documents offer users advanced features and novel forms of functionality beyond those possible in printed form.

(Brophy, 2001) noted that the advantages of electronic resources over print include speed, ease of use, ability to search multiple files at the same time, ability to save, print and repeat searches, more frequent updating, and the ability to access documents from outside the library (a particular advantage for the distance learner).

Electronic resources are invaluable research tools that complement the print-based resources in a traditional library. Their advantages include access to information that might be restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to additional resources or related content (Dadzie, 2005)

The arguments for students using electronic resources are compelling. However, knowledge of computers and retrieval

techniques is needed to search these resources effectively. It is therefore necessary to determine what computer skills students need to access library electronic information resources (Okello-Obura & Magara, 2008).

(Tella, 2007) noted that students' ability to find and retrieve information effectively is a transferable skill useful for their future lives as well as enabling the positive and successful use of academic electronic resources. The ability to explore the digital environment is a requirement for academic success today.

Students are increasingly expected to use electronic information resources at the university. In order to make use of the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them. Skills learning are essential in a technology driven environment, and it can be enhanced through the use of innovative learning strategies (Lawson & Lawson, 2005)

### 2.6 Existing Research Gap

From the above reviewed literature, it is evident that study on Information Literacy Programs at the Maseno University existed, information literacy among students, information literacy and infrastructure, enhancement of information literacy, utilization and underutilization of e-resources has been done and no study has been done on effectiveness of the information literacy program and therefore there exist a gap that need to be filled so that the information literacy program position may be established and gaps identified in the IL program be filled so that the students would acquire information literacy skills to access, retrieve and utilize electronic information resources and sources to enhance their research in Maseno University and in education in the Kenya as a country.

## III. RESEARCH METHODOLOGY

This chapter gave the detailed methodology that was employed in the study. It discussed the research design, target population, sample size and sampling procedures, methods that were used to collect data, pre-testing the data collection instrument, data collection, data analysis, presentation techniques, ethical considerations and study limitations.

### 3.1 Research Design

Descriptive research design was used in the study, since the researcher was interested in fact finding and this was the most appropriate method of describing the variables as it reported situations and conditions as the way things were noted by (Mugenda, 2003). And this in turn provides an in- depth understanding of the problem under study.

The independent variables used in the study were on the information literacy programming and the mediating or intervening variables were the student skills and also the dependent variable included utilization of electronic resources at Maseno university library at Maseno University.

### *3.2 Area of the Study*

The study was conducted at Maseno University library in Kisumu County, Kenya; the study mainly focuses on Maseno University students, who had undertaken the information literacy program in the library to enhance their IL skills in order to access and utilize e-resources.

#### *Target Population and Sample Size*

A target population is that population to which the researcher wants to generalize the results of the study (Mugenda, 2003). According to (Kombo and Tromp, 2006), 30% or more of the population yields adequate sample when carrying out a descriptive survey. Therefore the 10% sample was deemed sufficient for the research. Thus, the sample size chosen for the study was 100 students in the library. 100 students at Maseno University formed the study population, from which the sample population of 100 was drawn which is 10% of the total study population

#### *Sampling Techniques and Procedure*

The selection of elements from a population should be in such a way that the descriptions of those elements accurately portray the characteristics of the population from which they are drawn. The sample size was selected from the total population of students registered in the library using random sampling method. This method allows generalization to a larger population with a margin of error that is statistically determinable and the use of inferential statistics; statistical indices calculated on the sample can be evaluated to determine the degree to which they accurately represent the population parameters according to (Mugenda, 2003).

The random sample of 1000 was further subjected to 10% sampling which gave a total sample of 100 students. Hence the researcher used the sampled 100 students who represented the whole population.

#### *Sources of Data*

The study involved both secondary and primary data sources which were used to collect information to be used in designing of the report. This was elaborated in the sub heads below.

##### *Primary Source*

The data was collected in form of a survey. The researcher designed the questionnaires and distributed to the respondents on a one to one basis and ensured that all the questions are fully filled or answered that gave clear literature to enhance quality data for the research.

##### *Secondary Source*

The researcher made references from previous dissertations, Print Medias (News Papers and Magazines), reports and text books with relevant topics and relevant literatures, policy statements, legislation and the internet. This helped in providing with the already existing data for the study.

### *Data Collection Methods and Instruments*

The research instruments that the researcher employed in the study was questionnaires and interview schedules. Questionnaires and interview schedules were formulated guided by the study objectives and the research questions. Questionnaires were administered by the researcher, the researcher was able to distribute them and collect data within the stipulated period of time, interview schedules questions were formulated as well guided by the study objectives and the research questions. The questionnaire tool was in form of both open ended and closed ended in nature and this was self-administered where the researcher allowed the respondents to fill the questionnaires in the study field as per respondents' responses.

An interview guide was drafted with a set of questions that the researcher asked during an interview and this was structured (close ended) in nature. The researcher personally recorded the provided responses as per the study respondents during the process of carrying out an interview. The use of an interview guide to elicit the required data that was appropriate for the study, this was because interviews were majorly known to be significant and more complete answers to questions.

#### *Validity and Reliability*

A pilot study was carried out on 10% of the registered students in Maseno university library; the purpose for the pilot study was to ensure that the data collection instruments were reliable. The questionnaires were then analyzed to establish the suitability of the questionnaires; this was aimed at establishing whether the questions asked are relevant to the study and whether the answers received are clear. Corrections were made to the questions that are found inappropriate before they are administered to the actual target population of the study.

##### *Validity*

In this study, focused on content validity, to the extent that data collected should represent the indicators of content of the concept in question during the pilot study, and when not achieved the researcher considered defining the content of the concept again.

The researcher ensured that the validity of the information was tested by use of the content validity index (CVI), the researcher sent the questionnaires to the respondents to identify whether they reflect the predicted data by the researcher and if not, adjustments were made to reflect the required data for the research study. This was done with close assistance of my able supervisors who made sure that the research was guided to the letter.

##### *Reliability*

(Mugenda, 2003) define reliability as the measure of the degree to which a research instrument yields consistent results after repeated trial. Thus, questionnaires were distributed during piloting, therefore reliability and validity were

established during the pilot and pre- testing of the study and when not achieved more and outstanding questionnaires were drafted. Also, in addition to ensure reliability, the researcher used the Likert scale to measure the internal consistency of the research instruments and under this method, the researcher also used a computer program Statistical Packages for Social Sciences (SPSS) to calculate Conbach's alpha which is the level of internal consistency of the research instruments thus ensuring the quality of the data.

#### *Data Collection Procedure*

Upon research approval, the researcher obtained an introductory letter signed from the Head of Department of Research of Busoga University that was presented to the administration of Maseno University seeking permission to carry out a study. The permission is granted, then questionnaires were distributed and interviews carried out to respective respondents on appointment. Questionnaires were distributed and collected by the researcher, interviews were done by the researcher guided by the interview schedules (sets of questions) were appended

#### *Data Analysis*

The quantitative data was presented in form of frequency distribution tables, pie charts, percentages, and graphs. The interpreted data was discussed and from them inferences were made and a report written.

#### *Ethical Considerations*

Respondents in the study were protected and their ethical rights considered during the study, information given was treated as confidential; anonymity of the respondents is also an important ethical consideration as it helps maintain privacy and the researcher protected the identity and privacy of the individual by using numbers or pseudo names. Permission was sought from relevant authorities in the institution, introductory letter from the researcher's university was availed and finally a confidentiality note on the questionnaires were attached and all respondents were informed of the reason for carrying out the study and how the findings of the research would improve or contribute to effective information literacy program in the library.

### IV. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This chapter presents the data collected through interviews and questionnaires based on the research objectives. It provides the analysis of data and presents results using tables, percentages, and charts. The data presented has been analyzed, interpreted and discussed based on the research objectives. The following themes have been developed in this chapter: response rate, demographic data of faculties, ICT facilities and devices for students use at Maseno University, Student skills, extent of use and relevance of e-resources to student's needs.

#### *Response rate*

The sample size of this study was 100 respondents selected from the population of 10,000 students and staff distributed in two groups which are library staff and students.

A total of 100 questionnaires were administered to employees of the Maseno University. However, by the end of the exercise only 95 questionnaires were collected posing a response rate of 94.9% and non-response of 5.1% as shown in the table 4.1 below; it implied that more than 50% of the population participated in the exercise. Therefore, the following outcomes were realized.

Table 4.1: Response rate

Response		Frequency	Percent
	Returned	95	94.9
	Not returned	5	5.1
Total		100	100.0

Source: Primary Data

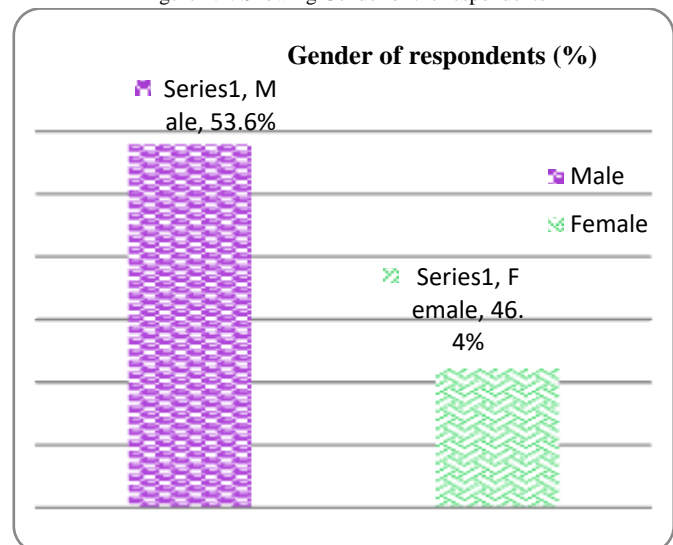
#### *Background Information of Respondents*

The respondents were classified according to their gender, age, highest formal qualification, duration of stay and position held at Maseno University.

#### *Gender of the respondents*

The study sought to establish whether the study was gender sensitive and that findings represented the views of both genders; the findings are represented in the table below.

Figure 4.1: Showing Gender of the respondents



Source: Primary Data

From the figure above, the majority of respondents were male 53.6% and 46.4% were female respondents. This implies that the study presented a gender balanced perspective much as men constituted a greater percentage of the sample studied.

*Age of the respondents*

Table 4.2: Age of the respondents

		Frequency	Percent
Valid	18 – 29 years	11	11.3
	30 – 39 years	46	46.4
	40 – 49 years	27	26.8
	50 years and over	16	16.1
	<b>Total</b>	<b>100</b>	<b>100.0</b>

Source: Primary Data

The distribution of respondents by age is shown in table above shows that 33.8% of the respondents were in the 40-49 years age bracket while those over 50 years were 22.5% of the respondents. The table also shows that the respondents in the 30-39 age brackets were 32.4% whilst those in the 18-29 age brackets were 11.3% of the respondents. Therefore, the majority (88.7%) of the respondents were 30 years old or more .That is  $33.8\% + 32.4\% + 22.5\% = 88.7\%$ .

*Highest formal qualification of the respondents*

Table 4.2.3: Highest formal qualification of the respondents

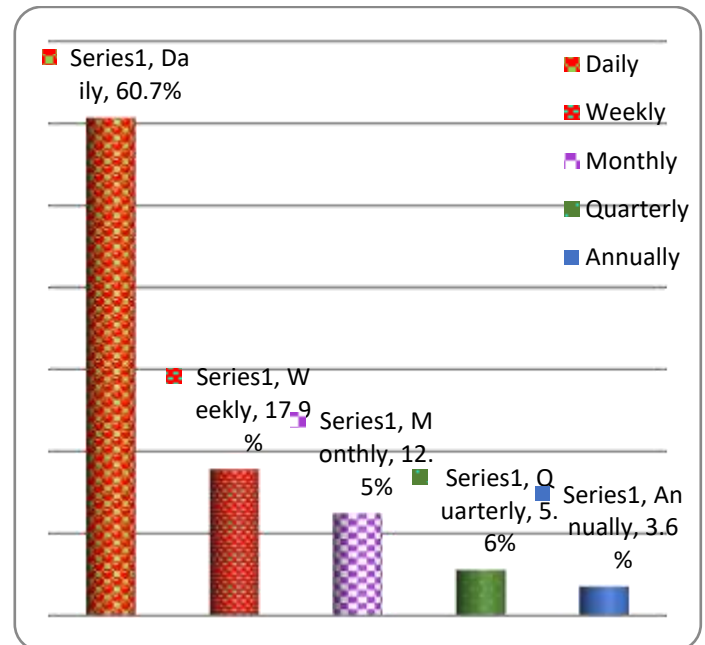
		Frequency	Percent
Valid	Certificate	13	12.5
	Diploma	33	23.2
	Degree	41	41.1
	Post graduate	23	23.2
	<b>Total</b>	<b>100</b>	<b>100.0</b>

Source: Primary Data

The table shows that 29.2% of the respondents were undergraduates while 28.2% had done their postgraduate studies. Diploma graduates were 23.9% while certificate holders were 18.3% of the respondents. Thus, the majority of the respondents were university graduates.

*Frequency of Electronic Resource Use*

Figure 4.4: Showing Frequency of Electronic Resource Use



Source: Primary Data

The respondents were asked to indicate the frequency with which they used e-resource. Table 4.7 shows that 66.2% of the respondents used e-resource in Maseno University daily whereas 16.6% of the respondents used the software weekly. The table also shows that 9.9% of the respondents used e-resource monthly while 5.6% of the respondents used the software quarterly. Lastly, 1.4% of the respondents used e-resource annually. Therefore, the majority of the respondents used e-resource in Maseno University daily.

*Existing infrastructure that supports the delivery of IL program at Maseno University*

The first objective of the study established the existing infrastructure that supports the delivery of Information Learning program at Maseno University. The responses from the respondents interviewed were computed to 5-point Likert scale options: Strongly Agree-1, Agree-2, Not sure-3, Disagree-4, Strongly Disagree-5. The results are shown below.

Table 4.3: The existing ict devices that supports the delivery of Information Learning program at Maseno University

Responses	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Smart phones	10	12.7%	43	59.2%	27	25.4%	10	1.4%	10	1.4%
Search engine and databases	25	8.5%	38	50.7%	26	28.2%	6	11.3%	5	1.4%
Computers	25	26.8%	33	59.2%	14	5.6%	24	7.0%	6	1.4%
User education and IL	22	21.1%	44	60.6%	16	9.9%	10	7.0%	5	1.4%
Networking Devices	18	14.1%	42	57.7%	24	18.3%	20	9.9%	0	0.0%
IPads and Tablets	0	0.0%	43	59.2%	20	12.7%	15	8.5%	22	19.7%



Search engine and databases	22	21.1%	42	56.3%	20	18.3%	12	2.8%	4	1.4%
E-books	23	22.5%	41	49.3%	23	22.5%	13	5.6%	0	0.0%

Source: primary data

From the table above, the study findings revealed that majority of respondents in Maseno University and their view on the existing infrastructure and devices that supports the delivery of Information Learning program indicated that 59.2% of the respondents agreed with the use of computers and smartphones respectively and 12.7% of the respondents strongly agreed. There were 25.4% of the respondents who were neutral whereas 1.4% of the respondents disagreed and another 1.4% strongly disagreed. Therefore, majority (71.9%) of the respondents agreed that smartphone and computers are the major infrastructures in IL since the implementation of e-resource cannot be a success without the above devices being the first priority.

In addition, the table above showed that 50.7% and 8.5% of the respondents agreed and strongly agreed, respectively that search engine such as Google chrome, Mozilla Firefox, opera and Internet Explorer (web browsers) and online databases were some of the existing infrastructure that supported the delivery of Information Learning program at Maseno University. The table also shows 28.2% of the respondents were neutral whereas 11.3% of the respondents disagreed and 1.4% of the respondents strongly disagreed.

Furthermore, existing infrastructure that supports the delivery of Information Learning program at Maseno University was iPads and Tablets as the findings from the table above showed that 59.2% and 26.8% of the respondents agreed and strongly agreed, respectively with this infrastructure. 7% of the respondents however disagreed and another 1.4% strongly disagreed while 5.6% of the respondents were neutral. Therefore, majority (86%) of the respondents agreed that e-resource utilized iPads and Tablets in Maseno University at all the stages of a digital translation process, thereby enhancing efficiency and effectiveness.

The study findings further revealed that the existing infrastructure that supports the delivery of Information Learning program at Maseno University included User education and information learning and this software assisted Maseno University in ensuring that Literacy Programs are realized to every students and departments. The study findings in this factor from the table above presented that 21.1% of the respondents strongly agreed that in ensuring accessibility of e-resources while 60.6% of the respondents agreed.

Nevertheless, 7% of the respondents disagreed that the user education and IL software helped in ensuring e-resource infrastructure at Maseno University while 1.4% strongly disagreed. The result also revealed that 9.9% were neutral. Therefore, majority of the respondents agreed that e-resource assisted the management in ensuring user accessibility to education IL for the deployment and use at Maseno University.

The findings of the table above further analyzed that 14.1% of the respondents strongly agreed that the IL software had inbuilt features which were supported by Networking Devices such as Switches, WIFI and Routers while 57.7% of the respondents agreed. Meanwhile, 9.9% of the respondents disagreed that the software had inbuilt features while 18.3% of the respondents were neutral. Therefore, the majority of the respondents agreed that e-resource had inbuilt features which facilitated the monitoring and evaluation of the university's activities basing on the existing infrastructure that supports the delivery of Information Learning program at Maseno.

Lastly but not least, analysis from the existing infrastructure that supported the delivery of Information Learning program at Maseno University revealed of E-books and when respondents were asked whether the implementation of this e-resource was practical in the university, their views from the table above showed that 56.3% and 21.1% of the respondents agreed and strongly agreed. Nevertheless, 2.8% of the respondents disagreed that e-resource improved the public image of the e-books in the University while 1.4% strongly disagreed. The table also shows that 18.3% of the respondents were neutral. Therefore, the majority 77.3% of the respondents agreed that implementation of the e-book software improved confidence and credibility of the University's e-resources that were useful in IL Programmes.

#### *Extent of use and the relevance of e-resources to students needs at Maseno University*

The researcher went ahead to investigate on the extent of use and the relevance of e-resources to students needs at Maseno University. The response was computed to 5-point Likert scale options: Strongly Agree-1, Agree-2, Not sure-3, Disagree-4, Strongly Disagree-5. The results are shown below.

Table 4.4: The extent of use and the relevance of e-resources to students needs at Maseno University

Responses	Strongly Agree		Agree		Neutral		Disagree		Strongly disagree	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Promotes individual instruction or reference service	19	16.1	43	58.9	19	16.1	14	7.1	5	1.8
Increases on master the skill needed to access information in print, non-print and electronic forms sources.	30	35.7	40	53.6	6	3.6	14	7.1	0	0.0

Enables effective methods of IL skills instruction	31	38.0	38	49.3	14	7.0	7	5.6	0	0.0
Improves on the scope for using social networking on Web	26	28.2	48	49.3	21	19.7	6	2.8	0	0.0
Enables use of library manuals and guides	27	31.0	46	46.5	19	16.9	7	5.6	0	0.0
Enabling independent learning on-line and distance learning approaches.	30	36.6	37	40.8	19	16.9	13	5.6	0	0.0
Retrieve of information using different tools such as catalogues, and journal indexes.	44	42.3	33	40.8	16	11.3	7	5.6	0	0.0
Offers real time information that enhances my decision-making abilities	32	21.1	46	63.4	17	7.0	5	8.5	0	0.0

Source: primary data

From the table above, the study findings that majority of respondents 59.2% of the agreed and a further 15.5% strongly agreed that increases on master the skill needed to access information in print, non-print and electronic forms was one of the extents of use and the relevance of e-resources to students needs at Maseno University. However, 15.5% of the respondents were neutral whereas 8.5% of the respondents disagreed and 1.4% strongly disagreed that e-resource enabled mastery of skills needed to access information in print, non-print and electronic forms.

The findings from the table above also showed that 52.1% of the respondents agreed and 35.2% of the respondents strongly agreed with enabling independent learning on-line and distance learning approaches as one was relevant to students' use of e-resources at Maseno University. On the other hand, 5.6% of the respondents disagreed whereas another 5.6% of the respondents were neutral. Therefore, the majority (87.3%) of the respondents agreed that it easy to extract and present data in ways that facilitated analysis.

Enabling effective methods of Information Learning skills instruction was another way the use and relevance of e-resources was useful to students needs at Maseno University and according to the study findings from the table above, 49.3% of the respondents agreed and 38.0% of the respondents strongly agreed. Seven percent (7%) of the respondents were neutral whereas those who disagreed where 5.6%. Therefore, majority (87.7%) of the respondents agreed that they could access e-resource to derive the specific information they required to carry out their work.

The study findings the table above also establish that the use of e-resources inbuilt analytical tools supports students in improvements on the scope for using social networking on Web such as the student's findings from the table above showed that 49.3% and 28.2% of the respondents agree and strongly agreed respectively, that there were inbuilt analytical tools that made it possible to do trend analysis. However, there were 19.7% of the respondents who were neutral while 2.8% of the respondents disagreed. Therefore, majority (77.5%) of the respondents agreed that there were inbuilt analytical tools with e-resource that enabled trend analysis.

Furthermore, the study findings from the respondents showed that 46.5% of the respondents agreed and 31% of the

respondents strongly agreed that e-resource made it possible to reconcile data in real time applications that were supporting information learning Programmes at Maseno University. However, 5.6% of the respondents disagreed while 16.9% of the respondents were neutral. Therefore, majority (77.5%) of the respondents agreed that through e-resource, the respondents were able to reconcile transactions data in real time.

The views of respondents were sought as to whether e-resource accurately were of useful value and relevant to students, acquisition of information literacy Programmes at Maseno University, the results from the table showed that 40.8% of the respondents agreed and 36.6% of the respondent strongly agreed with enabling independent learning on-line and distance learning approaches. The table however showed that 5.6% of the respondents disagreed that the e-resource accurately disclosed the enabling independent learning on-line and distance learning approaches that were very useful to students while 16.9% of the respondents were neutral. Therefore, the majority (75.4%) of the respondents agreed that e-resource accurately disclosed enabling independent learning on-line and distance learning approaches at Maseno University.

In addition to the above, the study findings from the table above established that e-resource enabled the respondents to generate an enabling independent learning on-line and distance learning approaches as 40.8% and 42.3% of the respondents agreed and strongly agreed, respectively. However, shows that 11.3% of the respondents were neutral and 5.6% of the respondents disagreed. Therefore, the majority (83.1%) of the respondents agreed that e-resource enabled them to generate independent learning on-line and distance learning approaches.

#### *Ways of improving utilization of e-resources in Maseno University*

In this section, the researcher analyzed the ways of improving utilization of e-resources in Maseno University and the responses from the respondents was computed to 5-point Likert scale options: Strongly Agree-1, Agree-2, Not sure-3, Disagree-4, Strongly Disagree-5. The results are shown below.

Table 4.5: The Ways of improving utilization of e-resources in Maseno University

Responses	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Program should be offered to students after registration not during registration	32	35.2%	32	42.3%	18	14.1%	14	8.5%	0	0.0%
More Time is required for IL Program training.	30	18.3%	40	36.6%	19	26.8%	7	12.7%	3	5.6%
Day-to-day operations including management maintenance, troubleshooting, and user support	28	25.4%	39	52.1%	18	14.1%	15	8.5%	0	0.0%
Server maintenance, database maintenance and backup	35	38.0%	44	42.3%	17	12.7%	4	7.0%	0	0.0%
Keeping abreast of developments in library technologies to maintain current awareness of information	26	28.2%	46	56.3%	17	12.7%	12	2.8%	0	0.0%
ICT training among health information professionals	23	23.9%	46	39.4%	26	28.2%	4	7.0%	1	1.4%
Reference and instruction	13	5.6%	31	38.0%	30	36.6%	20	18.3%	5	1.4%
Explore Internet access	23	16.9%	35	45.1%	26	28.2%	15	8.5%	1	1.4%

Source: Primary data

The findings from the table above presented that 42.3% and 35.2% of the respondents agreed and strongly agreed, respectively with Server maintenance, database maintenance and backup and offering Programmes of after registration not during registration as the best ways of improving utilization of e-resources in Maseno University. However, there were 8.5% of the respondents who disagreed while 14.1% of the respondents were neutral. Therefore, the majority 77.5% of the respondents agreed.

Another way of improving utilization of e-resources in Maseno University according to responses from the table above was provision of more time for IL Program training of e-resources and respondents responses showed that 36.6% of the respondents agreed and a further 18.3% of the respondents strongly agreed. However, 26.8% of the respondents were neutral, whereas 12.7% and 5.6% disagreed and strongly disagreed, respectively. Therefore, majority (54.3%) of the respondents agreed that e-resource had More Time required for IL Program training.

Furthermore, the study findings from the table above revealed that e-resources needed to be boosted at Maseno University in Kenya through exploration of free internet access across the campus and the findings showed that 50.6% of the respondents agreed and another 16.9% strongly agreed. On the other hand, 16.9% of the respondents were neutral whereas 9.9% of the respondents disagreed and 5.6% of the respondents strongly disagreed. Therefore, majority of the respondents agreed that the free internet access helped in promoting information from all sources that IL was available online. The accessibility of free internet in campuses will help boost information literacy and hence help in research work across Africa. Countries should endeavor to promote accessibility of information in our Universities and even middle level colleges for the nation to have an information literate nation.

## V. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of major findings, conclusions and recommendations. The study was carried out basing on the study objectives.

### 5.1 Summary of Major Findings

The study findings from chapter four showed that the IL program was introduced in Maseno University in Kenya to enable to train students on the information literacy to enhance access and utilization of library information materials for research. The study established that the program is inadequate in some key components as indicated by the students who suggested that the IL program should emphasize and offer more training on user instructions, orientation, computer information literacy, and online databases for majority of the respondents felt they needed more training on the skills.

The findings further revealed that the content of the current implementation of IL training program has not benefited the students an indication that they did not learn IL skills for their use, this proves that the program was not effective and there is need to have it improved in order promote utilization of electronic information resources. These would help the students acquire skills that would add value to them when searching for information for their research study.

The study established that students were introduced to the way library is organized, the library collection; existence of the OPAC and how to retrieve library information materials, however the study observed that there was need to incorporate IL training during the user education program so that the students would acquire some of the IL skills during user education training program which would go a long way in enhancing access and utilization of library skills.

The study revealed that the training time was only orientation which is very short and therefore the students needed to have

more training time on e-resources hence ineffectiveness of the IL training program in enhancing acquisition of information literacy skills to the students therefore the reason as to why electronic information resources in the library were underutilized.

The study found out that the IL training was very important to the students in helping them to acquire research skills and therefore inevitably necessary for effective use of e- books and journals, and other e-materials, certainly end users of electronic information resources often need assistance in database content, search protocols and use of computers. There is therefore a necessity for a good training program to enhance students develop information literacy skills. It was also established that users were inadequately skilled for efficient utilization of e- books and there was dire need for information literacy training program to facilitate utilization of e-resources. Literacy skills were not to be taught in isolation but rather continuously integrated throughout the curriculum and when taught within an inter-disciplinary unit or within a unit addressing an authentic, real- life need or problem in order to enhance the skills by the students.

The study also revealed that time and period of training was also of concern to students who stated that the program should be offered to students after registration not during registration, the IL program training require more time, that the number of student is too big for induction during orientation, many other activities in the library affect time for IL program, the orientation schedule is too overloaded to allow time for IL program, time allocated for e-resource training is not enough, time allocated for orientation schedule for IL program is not enough, and time allocated for IL program training is not adequate.

### 5.2 Conclusions

The study concludes that the content covered in the current IL program was not sufficient, as it lacks some basic skills in information searching, retrieval and evaluating information resources, therefore enhancement of the program was very necessary in order to equip the students effectively. The study finally concludes that information literacy skills have not taken the desired firm root among the post graduate students as desired by the University. The little that is presently being taught involves mainly the librarians without the partnership of the faculty members and the librarians. The students' views on the program was negative since most of the students showed that their participation was minimal which lead to inadequate acquisition of skills, the study concludes that a student's participation in designing the program and the delivery of the content was important to enhance understanding through practice. The IL program is not effective since the training time is clashing with other activities and class timetables which therefore call for better planning to improve inclusiveness in student participation. This problem, coupled with inadequate training time, follows-ups, practice, affects. The students' acquisitions of the skills were however, acquired at a certain level of information

literacy but which is very minimal, including technological skills as well as the investigative and critical thinking. Therefore, the study concludes that inadequate timing and time of the IL program poses as the major challenge as reflected by the highest percentage.

### 5.3 Recommendations

The content used for the IL training was insufficient and therefore the study recommends that post graduate students should be trained about searching and retrieval of information followed by evaluating information sources training, making IL training of value to them. IL training should be introduced at the entry level of the undergraduate students since the training is relevant and enhances students to acquire IL skills and these helps reduce information illiteracy in the society as we embrace information society in the twenty first century.

The students had negative perception on the IL training since most of the students indicated that they have not benefited in any way from the program, therefore the study recommends that various methods should be developed for teaching and assessing the information literacy skills of the students, which may include: one-on-one instruction, interactive classes, online tutorials, as well as building assignments around research situations. Lecturers must also include the use of the e- information resources and computers as well as the internet and online searching skills. Students should be encouraged to learn more about electronic information resources and sources, and information literacy.

The study established that most of the students lack some basic skills in information search, retrieval and evaluating the information resources, therefore the study recommends that the IL program may include a course about how the library is organized and how to use the library, the purpose being to allow students to become familiar with the library's collections, enquiry systems, layout and functions, also how documents are organized, disseminated and retrieved. Then finally a course on information searching, and evaluating information resources and sources these will help students develop capacities in undertaking scientific research and practical work to lay strong foundations that will help them learn IL skills for future study and scientific research.

The study established that IL program was not effective since most of the students could not attend the program to completion due to clashing timetables and activities in the university, therefore the study recommends that good timing mostly when the students have fully registered with the university and have started their classes and are about to do their research, so that big number of students would see the need to attend and concentrate on the IL program training offered to them by the librarians for them to acquire the information literacy skills to enhance utilize electronic information resources and access the online databases subscribed by the library, or the IL training program be integrated to the curriculum.



### 5.4 Areas for Further Research

The researcher recommended other resources to investigate on the following areas of research because he had limited time to explore everything that was needed in this research:

To identify the strategies those have been put in place by library in order to sensitize students on the information literacy and establish whether the strategies are effective or not in order to pinpoint the areas of need and concern.

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